09/242,343 Dialog

Set	Items	Description
S1	1012030	VIRAL OR ANTIVIRAL
S2	336	CYCLIC(W)LIPOPEPTIDE? ?
S3	14	PUMILACIDIN? ?
S4	15126	CYCLIC(W)PEPTIDE? ?
S5	59118	BETA(W)HYDROXY?
S6	19919	BETA(W)AMINO?
S7	1269	SURFACTIN? ?
S8	120827	SUBTILIS
S9	77515	S5 OR S6
S10	267	S4 AND S9
S11	1793	S2 OR S10 OR S3 OR S7
S12	127	S11 AND S1
S13	67	S12 NOT PY>1997
S14	47	RD (unique items)
S15	7949	S1 AND S8
S16	1960	VIRAL(W)INACTIVAT?
S17	194354	ANTIVIRAL
S18	195828	S16 OR S17
S19	33	S7 AND S8 AND S18
S20	0	S19 NOT S12
S21	30776	AU="VOLLENBROICH, DIRK" OR D9 OR AU="VOLLENBROICH D" OR AU="VOLLENBROICH D." OR AU="VOLLENBROICH DIRK" OR AU="VOLLENBROICH DIRK DIPL ING"
S22	68	AU="VOLLENBROICH D" OR AU="VOLLENBROICH D." OR AU="VOLLENBROICH DIRK" OR AU="VOLLENBROICH DIRK DIPL ING" OR AU="VOLLENBROICH, D." OR AU="VOLLENBROICH, DIRK"
S23	239	AU="VATER J" OR AU="VATER J." OR AU="VATER JOACHIM"
S24	0	PAULI G
S25	1591	AU="PAULI G" OR AU="PAULI G."
S26	33	AU="PAULI GEORG" OR AU="PAULI GEORG PROF DR"
S27	69	AU="KAMP R M" OR AU="KAMP R.M." OR AU="KAMP R-M" OR AU="KAMP ROZA MARIA" OR AU="KAMP ROZA MARIA PROF DR"
S28	345	S22 OR S23 OR S26 OR S27
S29	194	RD (unique items)
S30	163	S29 NOT PY>1997
S31	160	S30 NOT S12

09/242,343 Dialog

14/3,AB/2 (Item 2 from file: 155)
DIALOG(R)File 155:MEDLINE(R)

09193728 97345139
Application of surfactin **for mycoplasma inactivation in virus stocks [letter]**
Nissen E; Pauli G; Vater J; Vollenbroich D
In vitro cellular & developmental biology (UNITED STATES) Jun 1997, 33 (6) p414-5, ISSN 1071-2690 Journal Code: BZE
Languages: ENGLISH
Document type: LETTER

14/3,AB/3 (Item 3 from file: 155)
DIALOG(R)File 155:MEDLINE(R)

09076793 97133943
Antimycoplasma properties and application in cell culture of surfactin, **a lipopeptide antibiotic from Bacillus subtilis.**
Vollenbroich D; Pauli G; Ozel M; Vater J
Max-Volmer-Institut fur Biophysikalische und Biochemie, Fachgebiet Biochemie und Molekulare Biologie, Technische Universitat Berlin, Germany.
Applied and environmental microbiology (UNITED STATES) Jan 1997, 63 (1) p44-9, ISSN 0099-2240 Journal Code: 6K6
Languages: ENGLISH
Document type: JOURNAL ARTICLE
Surfactin , a **cyclic lipopeptide** antibiotic and biosurfactant produced by Bacillus subtilis, is well-known for its interactions with artificial and biomembrane systems (e.g., bacterial protoplasts or enveloped viruses). To assess the applicability of this **antiviral** and antibacterial drug, we determined the cytotoxicity of **surfactin** with a 50% cytotoxic concentration of 30 to 64 microM for a variety of human and animal cell lines in vitro. Concomitantly, we observed an improvement in proliferation rates and changes in the morphology of mycoplasma-contaminated mammalian cells after treatment with this drug. A single treatment over one passage led to complete removal of viable Mycoplasma hyorhinis cells from various adherent cell lines, and Mycoplasma orale was removed from nonadherent human T-lymphoid cell lines by double treatment. This effect was monitored by a DNA fluorescence test, an enzyme-linked immunosorbent assay, and two different PCR methods. Disintegration of the mycoplasma membranes as observed by electron microscopy indicated the mode of action of **surfactin** . Disintegration is obviously due to a physicochemical interaction of the membrane-active surfactant with the outer part of the lipid membrane bilayer, which causes permeability changes and at higher concentrations leads finally to disintegration of the mycoplasma membrane system by a detergent effect. The low cytotoxicity of **surfactin** for mammalian cells permits specific inactivation of mycoplasmas without significant deleterious effects on cell metabolism and the proliferation rate in cell culture. These results were used to develop a fast and simple method for complete and permanent inactivation of mycoplasmas in mammalian monolayer and suspension cell cultures.

14/3,AB/5 (Item 5 from file: 155)
DIALOG(R)File 155:MEDLINE(R)

07940493 94273227
Structural and conformational studies of [Ile7] and [Leu7] surfactins **from Bacillus subtilis natto.**

Itokawa H; Miyashita T; Morita H; Takeya K; Hirano T; Homma M; Oka K
Tokyo College of Pharmacy, Japan.
Chemical & pharmaceutical bulletin (JAPAN) Mar 1994, 42 (3) p604-7, ISSN 0009-2363 Journal Code: CZP
Languages: ENGLISH
Document type: JOURNAL ARTICLE
A novel [Ile7]**surfactin** (1), which showed anti-human immunodeficiency virus activity, has been isolated from Bacillus subtilis natto. Structural and conformational analysis of the peptide backbone of [Ile7]**surfactin** was conducted by a combination of various two-dimensional (2D) nuclear magnetic resonance (NMR), circular dichroism (CD) spectroscopy and simulated annealing calculations, compared with a known [Leu7]**surfactin** (2). Both **surfactins** were shown to exist in different conformational states in both polar and apolar solvents.

14/3,AB/6 (Item 6 from file: 155)
DIALOG(R)File 155:MEDLINE(R)

06623190 90216435
Pumilacidin , **a complex of new** antiviral **antibiotics. Production, isolation, chemical properties, structure and biological activity.**
Naruse N; Tenmyo O; Kobaru S; Kamei H; Miyaki T; Konishi M; Oki T
Bristol-Myers Research Institute, Ltd., Tokyo Research Center, Japan.
Journal of antibiotics (JAPAN) Mar 1990, 43 (3) p267-80, ISSN 0021-8820 Journal Code: HCF
Languages: ENGLISH
Document type: JOURNAL ARTICLE
New antibiotic **pumilacidins** A, B, C, D, E, F and G were isolated from the culture broth of a strain of Bacillus pumilus. They are cyclic acylheptapeptide composed of a beta-hydroxy fatty acid, two L-leucine, two D-leucine, L-glutamic acid, L-aspartic acid and L-isoleucine (or L-valine). **Pumilacidin** components were inhibitory to herpes simplex virus type 1 and H+, K(+)-ATPase and demonstrated antiulcer activity in rat.

14/3,AB/10 (Item 3 from file: 349)
DIALOG(R)File 349:PCT Fulltext

00530143
NOVEL COMPOUNDS
NOUVEAUX COMPOSES
Patent Applicant/Assignee:
SMITHKLINE BEECHAM CORPORATION
BLACK Michael Terrance
BURNHAM Martin Karl Russel
HODGSON John Edward
KNOWLES David Justin Charles
NICHOLAS Richard Oakley
PRATT Julie M
REICHARD Raymond Winfield
ROSENBERG Martin
WARD Judith M
Inventor(s):
BLACK Michael Terrance
BURNHAM Martin Karl Russel
HODGSON John Edward
KNOWLES David Justin Charles
NICHOLAS Richard Oakley
PRATT Julie M
REICHARD Raymond Winfield
ROSENBERG Martin

WARD Judith M
Patent and Priority Information (Country, Number, Date):
Patent: WO 9730070 A1 19970821
Application: WO 97US2318 19970219 (PCT/WO US9702318)
Priority Application: US 9611888 19960220
Designated States: JP; US; AT; BE; CH; DE; DK; ES; FI; FR; GB; GR; IE; IT; LU; MC; NL; PT; SE
Publication Language: English
Fulltext Word Count: 205299

English Abstract
This invention relates to newly identified Staphylococcal polynucleotides, polypeptides encoded by such polynucleotides, the uses of such polynucleotides and polypeptides, as well as the production of such polynucleotides and polypeptides and recombinant host cells transformed with the polynucleotides. This invention also relates to inhibiting the biosynthesis or action of such polynucleotides or polypeptides and to the use of such inhibitors in therapy.

French Abstract
La presente invention concerne des polynucleotides staphylococciques nouvellement identifies, des polypeptides codes par de tels polynucleotides, l'utilisation de tels polynucleotides et polypeptides, ainsi que la production de tels polynucleotides et polypeptides et la production de cellules hotes recombinantes transformees au moyen de ces polynucleotides. L'invention concerne egalement l'inhibition de la biosynthese ou l'action de tels polynucleotides ou polypeptides ainsi que l'utilisation therapeutique de tels inhibiteurs.

14/3,AB/20 (Item 13 from file: 349)
DIALOG(R)File 349:PCT Fulltext

00423529
METHODS AND COMPOSITIONS FOR INHIBITION OF MEMBRANE FUSION- ASSOCIATED EVENTS, INCLUDING HIV TRANSMISSION
PROCEDES ET COMPOSITIONS POUR EMPECHER CERTAINS PHENOMENES ASSOCIES AVEC LA FUSION AVEC LA MEMBRANE, EN PARTICULIER LA TRANSMISSION DU VIH
Patent Applicant/Assignee:
DUKE UNIVERSITY
TRIMERIS INC
Inventor(s):
BOLOGNESI Dani P
MATTHEWS Thomas J
WILD Cart T
BARNEY Shawn O'Lin
LAMBERT Dennis M
PETTEWAY Stephen R Jr
LANGLOIS Alphonse J
Patent and Priority Information (Country, Number, Date):
Patent: WO 9619495 A1 19960627
Application: WO 95US16733 19951220 (PCT/WO US9516733)
Priority Application: US 94360107 19941220; US 95470896 19950606
Designated States: AL; AM; AU; BB; BG; BR; BY; CA; CN; CZ; EE; FI; GE; HU; IS; JP; KG; KP; KR; KZ; LK; LR; LS; LT; MG; MK; MN; MX; NO; NZ; PL; RO; RU; SG; SI; SK; TJ; TM; TT; UA; UZ; VN; KE; LS; MW; SD; SZ; UG; CH; DE; DK; ES; FR; GB; GR; IE; IT; LU; MC; NL; PT; SE; BF; BJ; CF; CG; CI; CM; GA; GN; ML; MR; TD; TG
Publication Language: English
Fulltext Word Count: 201106

English Abstract
The present invention relates to peptides which exhibit potent

anti-retroviral activity. The peptides of the invention comprise DP178 (SEQ ID:1) peptide corresponding to amino acids 638 to 673 of the HIV-1LAI gp41 protein, and fragments, analogs and homologs of DP178. The invention further relates to the uses of such peptides as inhibitory of human and non-human retroviral, especially HIV, transmission to uninfected cells.

French Abstract
La presente invention concerne des peptides qui presentent une activite importante contre les retrovirus. Les peptides de l'invention comprennent le peptide DP178 (SEQ ID:1) correspondant aux acides amines 638 a 673 de la proteine VIH-1LAI gp41 et des fragments, analogues et homologues de DP178. L'invention concerne en outre l'utilisation de ces peptides comme inhibiteurs de la transmission a des cellules non infectees de retrovirus humains ou non humains, en particulier du VIH.

14/3,AB/22 (Item 15 from file: 349)

00398939
METHOD OF USING (H+/K+) ATPase INHIBITORS AS ANTIVIRAL **AGENTS**
PROCEDE D'UTILISATION D'INHIBITEURS DE (H+/K+)ATPASE COMME AGENTS ANTIVIRAUX
Patent Applicant/Assignee:
GD SEARLE & CO
MOORMANN Alan E
BECKER Daniel P
FLYNN Daniel L
LI Hui
VILLAMIL Clara I
Inventor(s):
MOORMANN Alan E
BECKER Daniel P
FLYNN Daniel L
LI Hui
VILLAMIL Clara I
Patent and Priority Information (Country, Number, Date):
Patent: WO 9529897 A1 19951109
Application: WO 95US5021 19950501 (PCT/WO US9505021)
Priority Application: US 94235619 19940429
Designated States: AM; AT; AU; BB; BG; BR; BY; CA; CH; CN; CZ; DE; DK; EE; ES; FI; GB; GE; HU; IS; JP; KE; KG; KP; LK; LR; LT; LU; LV; MD; MG; MN; MW; MX; NO; NZ; PL; PT; RO; RU; SD; SE; SG; SI; SK; TJ; TM; TT; UZ; VN; KE; MW; SD; SZ; UG; AT; BE; CH; DE; DK; ES; FR; GB; GR; IE; IT; LU; MC; NL; PT; SE; BF; CG; CI; CM; GA; GN; ML; MR; NE; SN; TD; TG
Publication Language: English
Fulltext Word Count: 41329

English Abstract
A class of compounds which are (H+/K+) ATPase inhibitors can be used for the treatment of **viral** infections. Compounds of particular interest are defined by formula (III), wherein D is N or CH; wherein R7 is one or more radicals selected from hydrido, alkoxy, amino, cyano, nitro, hydroxyl, alkyl, halo, haloalkyl, carboxyl, alkanoyl, nitro, amino, alkylamino, aminocarbonyl, aminosulfonyl, alkylaminocarbonyl, alkylcarbonylamino, alkoxycarbonyl, alkylaminosulfonyl, alkylsulfonylamino, alkylthio, alkylsulfinyl and alkylsulfonyl; wherein R8 is selected from hydrido, alkyl and cycloalkyl; wherein R9 is one or more radicals selected from hydrido, alkoxy, amino, alkyl, halo, cyano, nitro, hydroxyl, haloalkyl, nitro, carboxyl, alkanoyl, amino, alkylamino, dialkylamino, aminocarbonyl, alkylaminocarbonyl, alkylcarbonylamino, aminosulfonyl, alkylaminosulfonyl, alkylsulfonylamino, alkoxycarbonyl, alkylthio,

alkylsulfinyl and alkylsulfonyl; and wherein R10 and R11 are independently selected from hydrido, alkyl, aryl, alkylcarbonyl and arylcarbonyl wherein the aryl ring may be further substituted with one or more radicals selected from alkyl, halo, hydrazidylcarbonyl, aminocarbonyl and alkoxy; or wherein R10 and R11 together with the nitrogen atom form a heterocyclic ring; or a pharmaceutically acceptable salt thereof.

French Abstract
Une classe de composes qui sont des inhibiteurs de (H+/K+)ATPase peut etre utilisee pour le traitement d'infections virales. Les composes particuliers a examiner sont definis par la formule (III), dans laquelle D represente N ou CH; R7 represente un ou plusieurs radicaux choisis entre hydrido, alcoxy, amino, cyano, nitro, hydroxyle, alkyle, halo, haloalkyle, carboxyle, alcanoyle, nitro, amino, alkylamino, aminocarbonyle, aminosulfonyle, alkylaminocarbonyle, alkylcarbonylamino, alcoxycarbonyle, alkylaminosulfonyle, alkylsulfonylamino, alkylthio, alkylsulfinyle et alkylsulfonyle; R8 est choisi entre hydrido, alkyle et cycloalkyle; R9 represente un ou plusieurs radicaux choisis entre hydrido, alcoxy, amino, alkyle, halo, cyano, nitro, hydroxyle, haloalkyle, nitro, carboxyle, alcanoyle, amino, alkylamino, dialkylamino, aminocarbonyle, alkylaminocarbonyle, alkylcarbonylamino, aminosulfonyle, alkylaminosulfonyle, alkylsulfonylamino, alcoxycarbonyle, alkylthio, alkylsulfinyle, et alkylsulfonyle; et R10 et R11 sont independamment choisis entre hydrido, alkyle, aryle, alkylcarbonyle, et arylcarbonyle, le noyau aryle pouvant etre en outre substitue par un ou plusieurs radicaux choisis entre alkyle, halo, hydrazidylcarbonyle, aminocarbonyle et alcoxy; ou R10 et R11 forment avec l'atome d'azote un noyau heterocyclique; ou leur sel pharmaceutiquement acceptable.

14/3,AB/24 (Item 17 from file: 349)
DIALOG(R)File 349:PCT Fulltext

00379262
THERAPEUTIC DELIVERY COMPOSITIONS AND METHODS OF USE THEREOF
COMPOSITIONS D'APPORT THERAPEUTIQUE ET LEURS MODES D'UTILISATION
Patent Applicant/Assignee:
CYTRX CORPORATION
Inventor(s):
EMANUELE R Martin
ALLAUDEEN Hameedsulthan S
KOUSOULAS Konstantin G
Patent and Priority Information (Country, Number, Date):
Patent: WO 9510265 A1 19950420
Application: WO 94US11594 19941012 (PCT/WO US9411594)
Priority Application: US 93138271 19931015
Designated States: AU; CA; JP; KR; AT; BE; CH; DE; DK; ES; FR; GB; GR; IE; IT; LU; MC; NL; PT; SE
Publication Language: English
Fulltext Word Count: 7208

English Abstract
The present invention relates to compositions and methods for treating infectious diseases and genetic disorders through gene therapy and intracellular delivery of antisense oligonucleotides or other nucleic acid sequences. The present invention comprises a therapeutic delivery composition effective for treating a disease state comprising an administerable admixture of an effective amount of a therapeutic compound capable of altering nucleic acid sequence function and an effective amount of a surface active nonionic block copolymer having the following general formula: HO(C2H4O)b(C3H6O)a(C2H4O)bH wherein a is an integer such that the hydrophobe represented by (C3H6O) has a molecular weight of

approximately 750 and approximately 15,000, preferably between approximately 2,250 and approximately 15,000, more preferably between approximately 3,250 and approximately 15,000, and b is an integer such that the hydrophile portion represented by (C2H4O) constitutes approximately 1 % to approximately 50 % by weight of the compound, preferably approximately 5 % to approximately 20 %.

French Abstract

L'invention porte sur des compositions et methodes pour le traitement de maladies infectieuses et de troubles genetiques a l'aide d'une therapie genique et d'un apport intracellulaire d'oligonucleotides antisens ou autres sequences d'acide nucleique, et notamment sur une composition efficace dans le traitements d'etats pathologiques, faite d'un melange administrable d'une dose efficace d'un compose capable de modifier la fonction de la sequence d'acide nucleique et d'une dose efficace d'un copolymere bloc non ionique de formule generale:
HO(C2H4O)b(C3H6O)a(C2H4O)bH ou a represente un entier de sorte que l'hydrophobe represente par (C3H6O) ait un poids moleculaire compris entre approximativement 750 et approximativement 15 000, de preference entre approximativement 2 250 et approximativement 15 000 et encore mieux entre approximativement 3 250 et approximativement 15 000, et ou b represente un entier de sorte que la portion hydrophile representee par (C2H4O) constitue entre environ 1 % et environ 50 % en poids du compose ou mieux, entre environ 5 % et environ 20 %.

14/3,AB/39 (Item 10 from file: 654)

02658882

Utility

GENES FOR THE SYNTHESIS OF ANTIPATHOGENIC SUBSTANCES

[DNA molecule encoding one or more polypeptides required for the biosynthesis of pyrrolnitrin]

PATENT NO.: 5,639,949
ISSUED: June 17, 1997 (19970617)
INVENTOR(s): Ligon, James M., Basel, CH (Switzerland)
Hill, Dwight Steven, Cary, NC (North Carolina), US (United States of America)
Ryals, John Andrew, Durham, NC (North Carolina), US (United States of America)
Lam, Stephen Ting, Raleigh, NC (North Carolina), US (United States of America)
Hammer, Philip E., Cary, NC (North Carolina), US (United States of America)
ASSIGNEE(s): Ciba-Geigy Corporation, (A U.S. Company or Corporation), Tarrytown, NY (New York), US (United States of America) [Assignee Code(s): 2]
APPL. NO.: 8-258,261
FILED: June 08, 1994 (19940608)

This application is a continuation-in-part of Ser. No. 08-087,636, filed 1 July 1993, now abandoned, which is itself a continuation-in-part of Ser. No. 07-908,284, filed 2 Jul. 1992, now abandoned, which is itself a continuation-in-part of Ser. No. 07-570,184, filed 20 Aug. 1990 (now abandoned). This application is also a continuation-in-part of international PCT application No. US93-07954 filed on 24 Aug. 1993 (WO 94-05793), which is itself a continuation-in-part of Ser. No. 07-937,648, filed 31 Aug. 1992 (now abandoned).

FULL TEXT: 6108 lines

ABSTRACT

The present invention is directed to the production of an antipathogenic substance (APS) in a host via recombinant expression of the polypeptides needed to biologically synthesize the APS. Genes encoding polypeptides necessary to produce particular antipathogenic substances are provided, along with methods for identifying and isolating genes needed to recombinantly biosynthesize any desired APS. The cloned genes may be transformed and expressed in a desired host organisms to produce the APS according to the invention for a variety of purposes, including protecting the host from a pathogen, developing the host as a biocontrol agent, and producing large, uniform amounts of the APS.

14/3,AB/47 (Item 18 from file: 654)

02284130

Utility
PARTRICIN DERIVATIVES

PATENT NO.: 5,298,495
ISSUED: March 29, 1994 (19940329)
INVENTOR(s): Bruzzese, Tiberio, Milan, IT (Italy)
Signorini, Massino, Milan, IT (Italy)
Ottoni, Franco, Pieve Emanuele, IT (Italy)
ASSIGNEE(s): SPA Societa' Prodotti Antibiotici SpA, (A Non-U.S. Company or Corporation), Milan, IT (Italy)
[Assignee Code(s): 77952]
APPL. NO.:- 7-801,253
FILED: December 03, 1991 (19911203)
PRIORITY: 22268-A-90, IT (Italy), December 3, 1990 (19901203)

FULL TEXT: 613 lines

ABSTRACT

Derivatives of partricin and of its individual components, partricin A and B, wherein the mycosamine primary amino group forms an amide bond with the carboxy group of acids containing in addition a basic nitrogen group, the carboxy group at C-18 of macrolide ring being either free or in form of ester or neutral amide or containing in the chain a basic nitrogen moiety, their pharmaceutically acceptable salts, a process for preparing the same and pharmaceutical formulations containing the same.
?

31/3,AB/7 (Item 7 from file: 155)
DIALOG(R)File 155:MEDLINE(R)

08196949 94117374
Analysis of surfactin synthetase subunits in srfA mutants of Bacillus subtilis OKB105 [published erratum appears in J Bacteriol 1994 Apr;176(7):2136]
Vollenbroich D ; Mehta N; Zuber P; **Vater J** ; Kamp RM
Fachbereich 3 fur Chemie und Biotechnologie der Technischen Fachhochschule Berlin, Germany.
Journal of bacteriology (UNITED STATES) Jan 1994, 176 (2) p395-400, ISSN 0021-9193 Journal Code: HH3
Contract/Grant No.: GM39479, GM, NIGMS; GM45898, GM, NIGMS
Languages: ENGLISH
Document type: JOURNAL ARTICLE
The srfA operon of Bacillus subtilis functions in the biosynthesis of the lipopeptide antibiotic surfactin. On the basis of nucleotide sequence and genetic analysis, it is believed to encode three enzymes (E1A, E1B, and E2) that catalyze the incorporation of the surfactin substrate amino acids. Insertion, deletion, and amino acid substitution mutations of srfA were analyzed for subunit composition and activity as determined by assays of both amino acid-dependent ATP-PPi exchange and aminoacyl thioester formation. Insertion mutations in srfAA (encoding E1A, the subunit that incorporates Glu, Leu, and D-Leu) eliminated production and activity of all three enzymes. Deletions within srfAA and extending from srfAA to srfAB (encoding E1B, which incorporates Val, Asp, and D-Leu) abolished the activity and production of all three enzymes. Insertions between srfAA and srfAB and within srfAB eliminate the production and activity of E1B and E2. An insertion mutation in srfAC (encoding E2, which incorporates Leu) abolished the activity of E2 only. Mutations of the active serine in the putative 4'-phosphopantetheine-binding motif of the second and third domains of E1A eliminated thioester formation and severely reduced the ATP-PPi exchange activity of the two domains. However, the same mutation in the first domain of E1B had little effect on Val-dependent ATP-PPi exchange activity but abolished thioester formation. These results indicate that the coding assignments of the srfA genes are srfAA (E1A), srfAB (E1B), and srfAC (E2).

31/3,AB/8 (Item 8 from file: 155)
DIALOG(R)File 155:MEDLINE(R)

07820193 93307499
Analysis of a mutant amino acid-activating domain of surfactin synthetase bearing a serine-to-alanine substitution at the site of carboxylthioester formation.
Vollenbroich D ; Kluge B; D'Souza C; Zuber P; **Vater J**
Institut fur Biochemie und Molekulare Biologie, Technische Universitat Berlin, Germany.
FEBS letters (NETHERLANDS) Jul 5 1993, 325 (3) p220-4, ISSN 0014-5793 Journal Code: EUH
Languages: ENGLISH
Document type: JOURNAL ARTICLE
The reactive serine of the TGGHSL thioester binding motif of the first amino acid-activating domain of surfactin synthetase was replaced by alanine using site-directed mutagenesis. The multienzyme from cells of the resulting mutant lost its ability for thioester formation with L-Glu and was therefore inactive in surfactin production. The thiolation reactions catalyzed by the other amino acid-activating domains of surfactin synthetase were not affected by the mutation. The results show that L-Glu is activated at the first domain of surfactin synthetase, and give further evidence that a serine residue is essential for substrate amino acid

activation at the reaction centers of peptide synthetases.

31/3,AB/12 (Item 12 from file: 155)
DIALOG(R)File 155:MEDLINE(R)

07363594 91274302
Cell-free biosynthesis of surfactin, a cyclic lipopeptide produced by Bacillus subtilis.
Ullrich C; Kluge B; Palacz Z; **Vater J**
Institut fur Biochemie und Molekulare Biologie der Technischen Universitat Berlin, Federal Republic of Germany.
Biochemistry (UNITED STATES) Jul 2 1991, 30 (26) p6503-8, ISSN 0006-2960 Journal Code: A0G
Languages: ENGLISH
Document type: JOURNAL ARTICLE
The lipopeptide antibiotic surfactin is a potent extracellular biosurfactant produced by various Bacillus subtilis strains. Biosynthesis of surfactin was studied in a cell-free system prepared from B. subtilis ATCC 21332 and OKB 105, which is a transformant producing surfactin in high yield [Nakano, M. M., Marahiel, M. A., & Zuber, P. (1988) J. Bacteriol. 170, 5662-5668]. Cell material was disintegrated by treatment with lysozyme and French press. A cell-free extract was prepared by ammonium sulfate fractionation, which catalyzed the formation of surfactin at the expense of ATP. Lipopeptide biosynthesis required the L-amino acid components of surfactin and D-3-hydroxytetradecanoyl-coenzyme A thioester. D-Leucine which is present in surfactin was not utilized but inhibited the biosynthetic process. The structure of surfactin, synthesized enzymatically in vitro, was confirmed by chromatographic comparison with the authentic compound and by amino acid analyses. An enzyme fraction was prepared by gel permeation chromatography which catalyzed ATP/pyrophosphate exchange reactions dependent on the component amino acids of surfactin. This enzyme fraction was capable of binding substrate amino acids covalently, probably via thioester linkages. The formation of these intermediates was inhibited by various thiol blocking reagents and phenylmethanesulfonyl fluoride. De novo synthesis of the lipopeptide was not observed with this partially purified enzyme fraction most likely due to the lack of an acyltransferase activity required for linking the beta-hydroxy fatty acid to the peptide moiety.

31/3,AB/14 (Item 14 from file: 155)
DIALOG(R)File 155:MEDLINE(R)

06777538 91282798
Identification of amino acid substitutions in the lipopeptide surfactin using 2D NMR spectroscopy.
Baumgart F; Kluge B; Ullrich C; **Vater J** ; Ziessow D
Iwan-N.-Stranski-Institut fuer Physikalische und Theoretische Chemie, Berlin, Germany.
Biochemical and biophysical research communications (UNITED STATES) Jun 28 1991, 177 (3) p998-1005, ISSN 0006-291X Journal Code: 9Y8
Languages: ENGLISH
Document type: JOURNAL ARTICLE
It is generally accepted that surfactin, being produced by various Bacillus subtilis strains, is a cyclic lipopeptide built from the heptapeptide L-Glu-L-Leu-D-Leu-L-Val-L-Asp-D-Leu-L-Leu and a beta-hydroxy fatty acid with variable chain length of 13 - 15 carbon atoms. We investigated surfactin from Bacillus subtilis ATCC 21332 and OKB 105, dissolved in pyridine and methanol, with two-dimensional H NMR spectroscopy. In the NH-fingerprint region, 21 well resolved cross peaks are observed instead of the expected seven cross peaks for the given

heptapeptide. We were able to assign all proton signals to 21 amino acids, to identify three heptapeptides, and thus to prove the existence of structural analogues of surfactin. In the major fraction A, the peptide sequence is as given above. In fractions B and C, the C-terminal leucine is replaced by valine and isoleucine, respectively.

31/3,AB/22 (Item 22 from file: 155)
DIALOG(R)File 155:MEDLINE(R)

05943622 88196365
Studies on the biosynthesis of surfactin, a lipopeptide antibiotic from Bacillus subtilis ATCC 21332.
Kluge B; **Vater J** ; Salnikow J; Eckart K
Institut fur Biochemie und Molekulare Biologie, Technische Universitat Berlin, Germany.
FEBS letters (NETHERLANDS) Apr 11 1988, 231 (1) p107-10, ISSN 0014-5793 Journal Code: EUH
Languages: ENGLISH
Document type: JOURNAL ARTICLE
The biosynthesis of the lipopeptide antibiotic surfactin was studied in whole cells of Bacillus subtilis ATCC 21332 which incorporate 14C-labeled precursor amino acids directly into the product. [14C]Acetate appeared in the fatty acid portion of surfactin and was also partially converted into leucine. An enzyme was isolated and partially purified from a cell-free extract of the bacillus which catalyzes ATP-Pi-exchange reactions which are mediated by the amino acid components of surfactin. This activation pattern is consistent with a peptide synthesizing multienzyme which activates its substrate amino acids simultaneously as reactive aminoacyl phosphates.

31/3,AB/150 (Item 1 from file: 357)
DIALOG(R)File 357:Derwent Biotechnology Abs

0090907 DBA Accession No.: 89-08898
Lipopeptides from Bacillus subtilis: a class of potent biosurfactants-bacillomycin-L production (conference paper)
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CORPORATE SOURCE: Institut fuer Biochemie und Molekulare Biologie, Technische Universitaet Berlin, Franklinstrasse 29, D-1000 West Berlin 10, Germany.
JOURNAL: Eur.Congr.Biotechnol. (Vol.3, 266-69) 1987
CODEN: 9999X
LANGUAGE: English
ABSTRACT: Studies on the production of bacillomycin-L formation by Bacillus subtilis A 14 were discussed. The strain was grown in Landy medium, and bacillomycin-L production was monitored by inhibition of the growth of Penicillium chrysogenum, and by fluorescence. Optimal rates of bacillomycin-L production were observed at the end of the exponential phase. The incorporation of 14C-labeled tyrosine in the antibiotic was monitored. B. subtilis cells were removed by centrifugation and bacillomycin-L was isolated from culture medium by precipitation, extracted with dichloromethane, purified by salt precipitation and dissolved in ethanol. The fatty acid component of bacillomycin-L was investigated: from the hydrolyzates, the fatty acids were obtained by chromatography on a silica gel 60 column followed by reversed phase HPLC on RP 18 Hypersil. The preparation of cell free systems of B. subtilis A 14 was in progress for in vitro studies on the biosynthesis of peptide antibiotics. (7 ref)

31/3,AB/151 (Item 2 from file: 357)

DIALOG(R)File 357:Derwent Biotechnology Abs

0053985 DBA Accession No.: 86-11833
Biosynthesis of surfactin, a lipopeptide antibiotic from Bacillus subtilis ATCC 2133 - radiolabeled precursor studies (conference abstract)
AUTHOR: Kluge B; **Vater J** ; Salnikow J
CORPORATE SOURCE: Institut fuer Biochemie und Molekulare Biologie, Technische Universitaet Berlin, Franklinstrasse 29, D-1000 Berlin 10, Germany.
JOURNAL: Biol.Chem.Hoppe Seyler (367, Suppl., 157) 1986
CODEN: BCHSEI
LANGUAGE: English
ABSTRACT: Surfactin is a cyclic lipopeptide antibiotic from Bacillus subtilis ATCC 21332. It is composed of 7 amino acids and a beta-hydroxy-C13-C15 fatty acid which appears as a mixture of at least 5 structural variations. Surfactin was purified by LH-20 gel filtration and anion exchange chromatography on DEAE-Sephacel. It was finally separated into its structural modifications by reversed phase HPLC on RP 18 ODS Hypersil. In vivo labeling studies with 14C-L-Leu, 14C-C-Asp and 14C-acetate show that these precursors were incorporated into surfactin. The product was detected by TLC and radioscanning and identified by amino acid analysis. Incorporation experiments with these tracers demonstrate that the biosynthesis of surfactin starts in the logarithmic phase of growth of the bacillus. Maximal surfactin formation activity is observed at the end of this period. Lipopeptide production is maintained all over the vegetative part of the cell cycle. (0 ref)
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